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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,026	08/20/2001	Kazuhiko Fukuta	1035-337	5231
23117	7590	12/08/2003	EXAMINER	
NIXON & VANDERHYE, PC 1100 N GLEBE ROAD 8TH FLOOR ARLINGTON, VA 22201-4714				CHUNG, DAVID Y
ART UNIT		PAPER NUMBER		
		2871		

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

VM

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/932,026	FUKUTA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David Y. Chung	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 09 September 2003.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 5-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-12, 14 and 15 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 5, 6 and 16-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 5, 6 and 16-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Asada et al. (U.S. 5,963,287) in further view of Sera et al. (U.S. 5,461,202).**

Asada et al. discloses a display unit with a flexible circuit board. Note in figure 3, the driver IC chip 1, flexible film 12, and conducting wires 11a and 11b. The input electrode 9 and output electrode 14 formed at both ends of the flexible circuit board 17 function as external connection terminals. See column 5, line 30 – column 6, line 41.

Asada et al. does not disclose folding the flexible circuit board towards the back surface. Sera et al. teaches bending the end of the flexible film around a reinforcement plate 37a in figure 10(a). The reinforcement plate acts as a spacer. Sera et al. teaches that this structure makes it possible to provide a flexible wiring board that can be easily mounted on a printed circuit board. See column 8, lines 5-10. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to bend the end of

the flexible circuit board as shown by Sera et al. in order to provide a flexible board which can be easily mounted on a printed circuit board.

As to claim 5, Sera et al. does not disclose a spacer that is an adhesive tape or adhesive agent. However, it was well known that using an adhesive to fold a flexible circuit board because of the added stability. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use an adhesive type spacer in order to increase stability.

As to claim 6, Asada et al. does not disclose forming the flexible film of polyimide resin having a thickness of not more than 40  $\mu\text{m}$ . However polyimide resin was widely used for flexible circuit boards because of its combination of good insulating properties and excellent flexibility. It was well known that making the film too thin would make it fragile and making it too thick would decrease the stability of the device by introducing too much tension into the bent portions of the flexible circuit board. Therefore, the thickness of the flexible circuit board is a result effective variable, the optimization of which has been judicially determined to be obvious to those of ordinary skill in the art.

#### ***Response to Arguments***

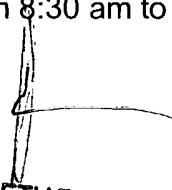
Applicant's arguments with respect to claims 5, 6 and 16-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (703) 306-0155. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.



KENNETH PARKER  
PRIMARY EXAMINER